General

Guideline Title

Additional perioperative evaluation. In: II guidelines for perioperative evaluation.

Bibliographic Source(s)

Gualandro DM, Yu PC, Calderaro D, Marques AC, Pinho C, Caramelli B, et al. Additional perioperative evaluation. In: II guidelines of perioperative evaluation. Arq Bras Cardiol. 2011;96(3 Suppl 1):7-10. [379 references]

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Committee on Perioperative Evaluation (CAPO), Brazilian Society of Cardiology. Additional perioperative assessment. In: I guidelines for perioperative evaluation. Arq Bras Cardiol 2007;89(6):e194-7.

Recommendations

Major Recommendations

The definitions for levels of evidence (A-C) and classes of recommendation (I-III) are provided at the end of the "Major Recommendations" field.

Assessment of Left Ventricular Function

Recommendations for preoperative transthoracic echocardiography:

Degree of Recommendation I, Level of Evidence B

- Suspected valvular heart diseases with important clinical manifestations
- Preoperative evaluation of liver transplantation

Degree of Recommendation IIa, Level of Evidence C

- Heart failure patients without prior assessment of ventricular function

Degree of Recommendation IIb

- Patients who will undergo high-risk surgeries; Level of Evidence B
- Preoperative evaluation of bariatric surgery; Level of Evidence C
- Grade 3 obesity; Level of Evidence C

Degree of Recommendation III, Level of Evidence C

- Routine for all patients

Noninvasive Stress Testing for Detection of Myocardial Ischemia

Recommendations for stress myocardial perfusion scintigraphy or echocardiography during the preoperative period:

Degree of Recommendation IIa, Level of Evidence B

- Patient with intermediate risk for complications and vascular surgery scheduled

Degree of Recommendation IIb, Level of Evidence C

- Patients with intermediate risk for complications and intermediate-risk surgery scheduled
- Patients with low functional capacity with intermediate- and high-risk surgeries scheduled

Health care facilities that do not offer imaging tests for detection of myocardial ischemia:

Exercise electrocardiography can be used, provided that the patient reaches the recommended heart rate with the following recommendations:

Degree of Recommendation IIa, Level of Evidence C

- Patient with intermediate risk for complications and vascular surgery scheduled

Degree of Recommendation IIb, Level of Evidence C

- Patients with intermediate risk for complications and intermediate-risk surgery scheduled

Coronary Angiography

Recommendations for requesting preoperative coronary angiography:

Degree of Recommendation I

- Patients with high-risk acute coronary syndrome; Level of Evidence A
- Patients with noninvasive test indicative of high risk; Level of Evidence C

Degree of Recommendation IIa

- Patients with indication for test based on current guidelines for coronary artery disease, regardless of the surgical procedure in elective surgeries; Level of Evidence C

B-Type Natriuretic Peptide (BNP)

Recommendation for measurement of BNP in the preoperative period:

Degree of Recommendation IIa, Level of Evidence B

- The measurement of BNP or N-terminal pro-BNP (NT-proBNP) in the preoperative period can be used as a predictor of perioperative cardiovascular risk and mortality of noncardiac surgeries.

Definitions:

Levels of Evidence

A. Evidence in several populations from multiple randomized clinical trials or meta-analyses
B. Evidence in a limited group of populations from single randomized clinical trial or non-randomized clinical studies
C. Evidence in very limited group of populations from consensus and experts' opinions, case reports and series

Degree/Class of Recommendation - Reflecting the Size of Treatment Effect

Degree of Recommendation I - Benefit >>> Risk; the treatment/procedure must be indicated/administered

Degree of Recommendation IIa - Benefit >> Risk; the choice for the treatment/procedure may help the patient

Degree of Recommendation IIb - Benefit > Risk; is not defined if the treatment/procedure can help the patient

Degree of Recommendation III - Risk > Benefit; the treatment/procedure must not be performed since it does not help and may be harmful for the patient

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Any condition requiring surgery

Guideline Category

Evaluation

Management

Prevention

Risk Assessment

Clinical Specialty

Anesthesiology

Cardiology

Colon and Rectal Surgery

Neurological Surgery

Orthopedic Surgery

Plastic Surgery

Surgery

Thoracic Surgery

Intended Users

Physicians

Guideline Objective(s)

- To refine and unify the terminology used by the entire multidisciplinary team, including the patients and their family
- To establish new routines, change indication for surgery according to the information obtained during the perioperative evaluation
- To inform the patient and the team on the possible risks related to the intervention

- To decrease perioperative complications

Target Population

Any patient who requires surgery

Interventions and Practices Considered

1. Transthoracic echocardiography
2. Exercise stress testing (exercise electrocardiography)
3. Stress myocardial perfusion scintigraphy
4. Dobutamine stress echocardiography
5. Monitoring with Holter monitor
6. Coronary angiography
7. Measurement of BNP or N-terminal pro-BNP (NT-proBNP) levels

Major Outcomes Considered

- Accuracy, sensitivity, specificity, and positive and negative predictive value of tests for risk assessment
- Safety of tests for risk assessment
- Prognostic value of tests for risk assessment
- Perioperative complications, morbidity, and mortality
- Patient survival rates
- Cost-effectiveness

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

The databases searched were PubMed, Scielo, and Lilacs. The guideline was updated, based on the last version of the guideline, and new evidence from 2007 to 2010 was obtained. There were no specific search terms. Articles published in Portuguese and English were included.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Levels of Evidence

A. Evidence in several populations from multiple randomized clinical trials or meta-analyses

B. Evidence in a limited group of populations from single randomized clinical trial or non-randomized clinical studies
C. Evidence in very limited group of populations from consensus and experts' opinions, case reports and series

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Not stated

Rating Scheme for the Strength of the Recommendations

Degree/Class of Recommendation - Reflecting the Size of Treatment Effect

Degree of Recommendation I - Benefit >>> Risk; the treatment/procedure must be indicated/administered

Degree of Recommendation IIa - Benefit >> Risk; the choice for the treatment/procedure may help the patient

Degree of Recommendation IIb - Benefit > Risk; is not defined if the treatment/procedure can help the patient

Degree of Recommendation III - Risk > Benefit; the treatment/procedure must not be performed since it does not help and may be harmful for the patient

Cost Analysis

Perioperative exercise electrocardiography is an inexpensive, easy to perform and highly reproducible test, and although it is inferior to imaging tests, it is adequate for the reality of many towns in Brazil.

Method of Guideline Validation

Peer Review

Description of Method of Guideline Validation

Not stated

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate use of perioperative cardiovascular testing, which may lead to reduced perioperative cardiovascular complications, morbidity, and mortality

Potential Harms

Not stated

Qualifying Statements

Qualifying Statements

- Data or scientific evidence are not always available to allow all the different situations to be analyzed. As customary in medical practice, minute analysis of the patient and problem and the common sense of the team must prevail.
- The surgical intervention does not finish when the patient is bandaged or leaves the operating room. The concept of the word perioperative includes the need for a postoperative surveillance whose intensity is determined by the individual level of risk of the patient.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

Staying Healthy

IOM Domain

Effectiveness

Safety

Identifying Information and Availability

Bibliographic Source(s)

Gualandro DM, Yu PC, Calderaro D, Marques AC, Pinho C, Caramelli B, et al. Additional perioperative evaluation. In: II guidelines of perioperative evaluation. Arq Bras Cardiol. 2011;96(3 Suppl 1):7-10. [379 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2007 (revised 2011)

Guideline Developer(s)

Brazilian Society of Cardiology - Medical Specialty Society

Source(s) of Funding

Brazilian Society of Cardiology

Guideline Committee

Not stated

Composition of Group That Authored the Guideline

Writing Committee Members: Danielle Menosi Gualandro, Pai Ching Yu, Daniela Calderaro, Bruno Caramelli

Task Force Members: Alina Coutinho Rodrigues Feitosa, André Coelho Marques, Bruno Caramelli, Beatriz Ayub, Carisi A. Polanczyk, Carlos Jardim, Carolina L. Zilli Vieira, Claudio Pinho, Daniela Calderaro, Danielle Menosi Gualandro, Denise Iezzi, Dimas T. Ikeoka, Dirk Schreen, Elbio Antonio D'Amico, Elcio Pfeferman, Emerson Quintino de Lima, Emmanuel de A. Burdmann, Enrique Pachon, Fabio Santana Machado, Filomena Regina Barbosa Gomes Galas, Flávio Jota de Paula, Francine Corrêa de Carvalho, Gilson Soares Feitosa-Filho, Gustavo Faibischew Prado, Heno F. Lopes, José Jaime Galvão de Lima, Julio Flavio Meirelles Marchini, Luciana S. Fornari, Luciano F. Drager, Luciano Janussi Vacanti, Ludhmila Abrahão Hajjar, Luis Eduardo P. Rohde, Luís Henrique Gowdak, Luiz Francisco Cardoso, Marcelo Luiz Campos Vieira, Maristela C. Monachini, Milena Macatrão, Pai Ching Yu, Paula Ribeiro Villaça, Pedro Silvio Farsky, Renato Delascio Lopes, Renato Scotti Bagnatori, Roberto Henrique Heinisch, Sandra F. Menosi Gualandro, Tarso Augusto Duenhas Accorsi, Walkiria Samuel Ávila, Wilson Mathias Jr.

Financial Disclosures/Conflicts of Interest

See the original guideline document for mandatory conflict of interest declaration.

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Committee on Perioperative Evaluation (CAPO), Brazilian Society of Cardiology. Additional perioperative assessment. In: I guidelines for perioperative evaluation. Arq Bras Cardiol 2007;89(6):e194-7.

Guideline Availability

Electronic copies: Available in Portable Document Format (PDF) from the Arquivos Brasileiros de Cardiologia Web site .

Availability of Companion Documents

None available

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on June 3, 2008. The information was verified by the guideline developer on July 2, 2008. This NGC summary was updated by ECRI Institute on November 16, 2011. The updated information was verified by the guideline developer on December 27, 2011.

Copyright Statement

Disclaimer

NGC Disclaimer